

## REMARKS

Claims 1-12 are currently pending in this application. Claims 1 and 9 were amended with a modification to the range of the apparent density. Claim 2 was amended to incorporate the limitations of original claim 1. Claims 4, 5, 7-9, 11 and 12 were amended to address the concerns of the Examiner. In view of the arguments below and the amendments herein, the Applicant requests withdrawal of the rejections and allowance of claims 1-12.

### Rejections under 35 U.S.C. §112 2<sup>nd</sup>

Claims 4, 5, 7, 8, 11 and 12 were rejected as being indefinite. In view of the above amendments, the grounds for rejection are moot and the Applicant requests withdrawal of the rejection.

### Rejections under 35 U.S.C. §102

Claims 1 and 3 were rejected as being anticipated by Hakomori et al. (5,631,076) and Hakomori et al. (6,261,670).

#### **Hakomori et al. (670)**

The Applicant submits that Hakomori (670) does not anticipate Claims 1 and 3 as originally submitted or as currently amended.

The present invention as described in claims 1 and 3 is directed to a recording material superior in the reproducibility of dots even if the heating value of a printer head is small and printing pressure is low. The claims' recitation that the heat conductivity of the ink receptor layer and of the substrate is 0.1 to 0.25 W/mK is a reflection of this.

Hakomori (670) is directed to thermal transfer receiving sheets used for high temperature and high pressure thermal heads of a printer used in a specific printing system called a micro-dry system. The examiner states the heat conductivity would “inherently expected to be the same absent any evidence to the contrary.” Not withstanding that the examiner bears the burden of proof and as such this rejection is *prima facie* improper, a thermal conductivity of less than 25 W/m K is not inherent to Hakomori (670). The applicant reminds the examiner that for a limitation to be inherent it must be necessarily present, a mere likelihood does not suffice. For high temperature, high pressure applications, there is no need to limit the thermal conductivity, thus this limitation is not inherent in Hakomori (670). The rejection is improper and should be withdrawn.

### **Hakomori (076)**

The present invention as recited in amended claims 1 and 3 are not anticipated by Hakomori (076).

Hakomori (076) is directed to thermal transfer receiving sheets. Hakomori (076) discloses an apparent density of 0.05 to 0.5 g/cm<sup>3</sup>, a pore diameter of 0.5 to 30 µm and a conductivity of less than 0.25 W/mK. Claims 1 and 3 of the present invention recite “an apparent density between 0.5 and 0.8 g/cm<sup>3</sup>”. For a reference to anticipate a claim it must show each and every feature, as such Hakomori (076) cannot anticipate claims 1 and 3. The Applicant request withdrawal of the rejection as it is moot in view of the amendment.

In view of the above comments, neither Hakomori (067) or Hakomori (076) anticipate claims 1 and 3. The Applicant requests withdrawal of the rejections and allowance of claims 1 and 3.

Rejections under 35 U.S.C. §103

I. Claims 1-3 and 6 were also rejected as being obvious over Hakomori (076) in view of Amagai et al. (5,712,026). The Applicant submits that Hakomori (076) in view of Amagai does not render Claims 1-3 and 6 as originally submitted or as currently amended obvious.

**Claims 2 and 6**

Notwithstanding the amendment to claim 1, the rejection of claims 2 and 6 over Hakomori (076) in view of Amagai is improper.

Understanding that the limitation of the centerline average roughness of the surface of the **ink receptor layer** to 0.20 to 0.45  $\mu\text{m}$  is nowhere disclosed in the invention of Hakomori (076). The Office Action uses Amagai to provide a teaching for centerline roughness of less than 0.5  $\mu\text{m}$ . However, Amagai shows a teaching for making the center line roughness of the **substrate** less than 0.5  $\mu\text{m}$ , not the center line roughness of the **ink receiving layer** less than 0.5  $\mu\text{m}$ . The **substrate** is the support layer (I) and should not be confused with the **ink receiving layer**. Therefore the rejection of claims 2 and 6 are improper, since Amagai or Hakomori (076) taken alone or in combination do not show, teach or

suggest a “centerline average roughness of the **ink receiving layer** surface is 0.20 to 0.45  $\mu\text{m}$ .” Therefore the rejection is improper and should be withdrawn.

### **Claim 1**

The rejection of Claim 1, as amended includes a limitation of “an apparent density...is between 0.5 and 0.8 g/cm<sup>3</sup>”. Neither, Hakomori (076), as discussed previously, or Amagai disclose, teach or suggest this limitation.

The coating layer of the present invention is made to be porous by the substitution of a solvent with a poor solvent using a wet coagulation method. Very fine holes can be thereby opened and the ink receiving layer having an apparent density between 0.5 and 0.8 g/cm<sup>3</sup>. In Hakomori (076), the ink receiving layer is made to be porous by applying a foamed coating solution and thus cannot provide smaller holes and in turn can not obtain an apparent density greater than 0.5 g/cm<sup>3</sup>.

### **Claim 3**

The rejection of Claim 3, should also be withdrawn as it depends from claim 1, irrespective of the addition patentable subject matter therein. Furthermore, the Office Action, in drafting the rejection of claims 3 and 6 has confused **pore diameter**, with **grain diameter** in the application of Amagai. The Office Action states”...having an average **grain diameter** of from 0.07 to 0.9 micrometers, which is included in applicant’s claimed range of 0.05 to 1 micrometers.” **Grain diameter** and **pore diameter** are simply not the same.

Note that Claim 3 recites “wherein the average **pore diameter** ... is .05 to 1  $\mu m$ .”

Therefore, for the above reasons, the rejections of claims 1-3 and 6 based on the Office Actions combination of Hakomori (076) and Amagai are now or continue to be improper. The Applicant request withdrawal of the rejections and allowance of claims 1-3 and 6.

II. Claims 4-12 were rejected as being obvious over Hakomori (076), Amagai and Umise et al. (5,593,940). The Applicant respectfully disagrees.

#### **Claims 4 and 5**

Claims 4 and 5 depend from claim 1, as noted above, Hakomori (076) and Amagai do not render claim 1 obvious. Umise does not obviate the deficiencies of Hakomori (076) and Amagai, specifically with respect to apparent density.

The Office Action asserts that Umise discloses static/dynamic coefficients of friction and stiffness properties as claimed in the current application. However, the Applicant understands Umise to disclose a thermal transfer sheet for use in transferring the ink images to the ink recording sheet, not a recording material with an ink receiving layer (see column 2, lines 54-62, column 3 lines 1-3) The Office Action has misread the disclosure. The properties on table 8 are for transfer sheets and thus offer no disclosure, teaching or suggestion applicable to an ink receiving layer. Umise is silent with respect the ink receiving layer.

### **Claims 6, 7 and 8**

Claims 6, 7 and 8 depend from claim 2, as noted above, Hakomori (076) and Amagai do not render claim 2 obvious. Umise does not obviate the deficiencies of Hakomori (076) and Amagai, specifically with respect to centerline roughness as discussed above in reference to claim 2. As noted above Umise is directed to a transfer sheet and thus can not provide any applicable teachings.

### **Claims 9-12**

Claims 9-12 recite the feature of a centerline roughness of “0.2-0.45”, and as mentioned above regarding claim 2, Hakomori (076) and Amagai do not show, teach or suggest such a limitation. Furthermore as previously discussed, Umise does not obviate this deficiency.

Therefore, the rejections based on the Office Action’s combination of Hakomori (076), Amagai in view of Umise are incorrect, specifically the application of coefficients of friction and stiffness, apparent density and centerline roughness relied upon in crafting the rejections. The applicant request withdrawal of the rejection and allowance of claims 4-12.

## CONCLUSION

In view of this amendment and arguments presented herein against the application of the present rejections. The Applicant requests withdrawal of the rejections and allowance of claims 1-12.

Respectfully submitted,



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